SCOPE OF WORKS

1. GENERAL

1.1. Suai – Beaco Existing Road Condition

1.2. Sua – Beaco Highway Road Project Designed
   1.2.1. Geometric Description
   1.2.2. Cross Sectional
   1.2.3. Pavement
   1.2.4. Section
   1.2.5. Major Work Component
   1.2.6. Civil Work Construction Period

2. DESCRIPTION OF THIS PROJECT

2.1. General
2.2. Geometric Description
2.3. Cross Sectional
2.4. Pavement
2.5. Contract Section
2.6. Earth Work
2.7. Pavement
2.8. Major Bridge
2.9. Water Crossing Drainage/Culvert
2.10. Existing Road Crossing
2.11. Interchange in each Section
2.12. Civil Works Construction Period
1. GENERAL

1.1. Suai – Beaco Existing Road Condition

Existing road condition along Suai to Beaco is very bad, the major part is unpaved or the pavement is totally failure
- Carriageway : 4.50 m
- Shoulder : 1-2 m
- Drainage : very poor
- Length : 190 km (estimate)

See Figure 1.

1.2. Suai – Beaco Highway Road Project Designed

A new highway road from Suai to Beaco is classified as expressway consists of four lanes for two ways.
- Beginning Point : Suai, sta. 0+000
- Ending Point : Beaco, sta. 155+679
• Length, km : 155.679

1.2.1. Geometric Description
• Lane width, m : 4 X 3.60
• Median, m : 2.50
• Outer Shoulder : 3.00
• Inner Shoulder : 1.50

1.2.2. Cross Sectional
• Embankment Height : 0.50 m varies to 20.00 m
• Embankment Slope : 1(V) : 2(H) and 1 (V) : 1 (H)
• Cutting Height : 0.50 m varies to 15.00 m (maximum 50.00 m)
• Cutting Slope : 2(V) : 1(H)

1.2.3. Pavement
• Type of Pavement : Flexible Pavement
• Pavement structure,
  − AC Wearing Course : 4 cm
  − AC Binder Course : 6 cm
  − AC Base : 6 cm
  − Aggregate Base : 25 cm
  − Aggregate Sub Base : 30 cm

1.2.4. Section
For construction purpose, a new highway road is splitted into four (4) Sections as presented in table below.

<table>
<thead>
<tr>
<th>No</th>
<th>Section</th>
<th>Sta</th>
<th>Length</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Suai – Fatukai</td>
<td>3+920 - 34+275</td>
<td>30.355</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Fatukai – Beaco</td>
<td>34+275 – 68+575</td>
<td>34.300</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Beaco – Clacuc</td>
<td>68+575 – 103+050</td>
<td>34.475</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Clacluc - Beaco</td>
<td>103+050 – 155+679</td>
<td>52.629</td>
<td></td>
</tr>
</tbody>
</table>

See Figure 2.
1.2.5. Major Work Component

- Earth Work
  - Embankment
  - cutting
- Pavement
  - As point 1.2.3
- Bridge
  - Super Structure: Prestress Concrete I Girder
  - Substructure: Reinforced Concrete
  - Foundation: Bore Pile
- Number of major bridge in each Section

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Number of Bridge</th>
<th>Total Length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>1685</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
<td>1527</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>1177</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>1272</td>
</tr>
</tbody>
</table>

- Water Crossing Drainage/ Culvert
  - Type of Culvert:
    o Single and Double RC Pipe, diameter 1.20 m
    o Single, Double and Triple RC Box dimension 2 m (W) : 2 m (H)
  - Number of Culvert in each Section

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>RC Pipe</th>
<th>R. C. Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>35</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>25</td>
<td>15</td>
</tr>
<tr>
<td>4</td>
<td>63</td>
<td>4</td>
</tr>
</tbody>
</table>

- Existing Road Crossing
  - Type of Crossing : Underpass
  - Type of Structure : Reinforce Concrete Box
  - Dimension
    o National Road (NR) :
    o Regional Road (RR) :
    o Local Road (LR) :
  - Number of Crossing

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Number of Crossing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3 3 5</td>
</tr>
<tr>
<td>2</td>
<td>4 0 11</td>
</tr>
<tr>
<td>3</td>
<td>1 1 7</td>
</tr>
<tr>
<td>4</td>
<td>2 5 7</td>
</tr>
</tbody>
</table>

- Interchange in each Section

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Number of IC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>
1.2.6. **Civil Work Construction Period**

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Construction Period (months)</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
<td>This tender process</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>Next construction period</td>
</tr>
<tr>
<td>3</td>
<td>24</td>
<td>Next Construction period</td>
</tr>
<tr>
<td>4</td>
<td>24</td>
<td>Next Construction period</td>
</tr>
</tbody>
</table>

2. **DESCRIPTION OF THIS PROJECT**

2.1. **General**

A new highway road from Suai to Fatukai/Mola is Section-1 of Suai – Beaco were classified as expressway consists of four lanes for two ways.

- Beginning Point : Suai, sta. 3+920
- Ending Point : Fatukai/Mola, sta. 34+275
- Length, km : 30.355

2.2. **Geometric Description**

- Lane width, m : 4 X 3.60
- Median, m : 2.50
- Outer Shoulder : 3.00
- Inner Shoulder : 1.50

2.3. **Cross Sectional**

- Embankment Height : 0.50 m varies to 20.00 m
- Embankment Slope : 1(V) : 2(H) and 1 (V) : 1 (H)
- Cutting Height : 0.50 m varies to 15.00 m (*maximum 50.00 m*)
- Cutting Slope : 2(V) : 1(H)

2.4. **Pavement**

- Type of Pavement : Flexible Pavement
- Pavement structure;
  - AC Wearing Course : 4 cm
  - AC Binder Course : 6 cm
  - AC Base : 6 cm
  - Aggregate Base : 25 cm
  - Aggregate Sub Base : 30 cm
2.5. Major Work Component

- **Earth Work**
  - Embankment
  - Cutting

- **Pavement**
  - As point 2.4

- **Bridge**
  - Super Structure: Prestress Concrete I Girder
  - Substructure: Reinforced Concrete
  - Foundation: Bore Pile
  - Number of major bridge in each Section

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Number of Bridge</th>
<th>Total Length (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>1685</td>
</tr>
</tbody>
</table>

- **Water Crossing Drainage/Culvert**
  - Type of Culvert:
    - Single and Double RC Pipe, diameter 1.20 m
    - Single, Double and Triple RC Box dimension 2 m (W) : 2 m (H)
  - Number of Culvert in each Section

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>RC Pipe</th>
<th>RC. Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31</td>
<td>19</td>
</tr>
</tbody>
</table>

- **Existing Road Crossing**
  - Type of Crossing: Underpass
  - Type of Structure: Reinforce Concrete Box
  - Dimension
    - National Road (NR):
    - Regional Road (RR):
    - Local Road (LR):
  - Number of Crossing

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Number of Crossing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

- **Interchange in each Section**

<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Number of IC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

2.6. Civil Work Construction Period
<table>
<thead>
<tr>
<th>No. of Section</th>
<th>Construction Period (months)</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>24</td>
<td></td>
</tr>
</tbody>
</table>